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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/620,281	07/15/2003	Su Mingzhong	14511-43865	7735

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EXAMINER	
PAK, JOHN D	

ART UNIT	PAPER NUMBER
1616	

DATE MAILED: 03/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

HC

Office Action Summary	Application No.	Applicant(s)	
	10/620,281	MINGZHONG ET AL.	
	Examiner	Art Unit	
	JOHN PAK	1616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 December 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-62* is/are pending in the application.

4a) Of the above claim(s) *41-62* is/are withdrawn from consideration.

5)☒ Claim(s) *1-14 (with minor change to claim 10, see page 2 of this action)* is/are allowed.

6)☒ Claim(s) *15-17 and 19-40* is/are rejected.

7)☒ Claim(s) *18* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *10/20/03*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Claims 1-62 are pending in this application.

Applicant's election of the invention of Group I, claims 1-40, in the reply filed on 12/9/2004 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)). Accordingly, claims 41-62 are withdrawn from further consideration as being directed to non-elected subject matter. Claims 1-40 will presently be examined.

Applicant is advised that in claims 10, 24 and 38, phthalic acid and isophthalic acid are recited twice. Deletion of the second recitations is required.

With the changes noted above, claims 1-14 are allowed. Because the entire application cannot be allowed at this time, applicant is advised that claims 1-14 will be subject to a search update at the time of the next Office action.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States

only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 15-16, 19-23, 25-30, 33-37 and 39-40 are rejected under 35 U.S.C. 102(b) as being anticipated by DeSenna et al. (US 6,099,861).

DeSenna et al. teach an effervescent tablet composition for preparing a disinfecting solution, which tablet contains a combination of bromide releasing agent and a hypochlorite releasing agent (column 3, first paragraph). A two tablet system is disclosed (column 3, lines 7-11). Sodium bromide is disclosed as a bromide releasing agent and sodium dichloroisocyanurate is disclosed as a hypochlorite and stabilizing agent (column 3, lines 12-15). Combination of sodium bicarbonate and citric acid is disclosed as a useful effervescent agent (column 3, lines 15-17). Sodium carbonate is also disclosed as an effervescent ingredient (column 6, lines 9-10). Surfactants, deodorants, lubricants and fillers are disclosed (column 3, lines 17-19). The table on column 5 discloses a two 3 g tablet combination, wherein the weight percentage of the ingredients based on the total weight of the two tablets are as follows: 20.8 wt% citric acid + 5 wt% sodium bromide + 12.35 wt% sodium dichloroisocyanurate + 1 wt% sodium lauryl sulfate (within the scope of sodium salt of "long chain fatty sulphates") + q.s. fillers, such as excipients and other formulation additives. The table on column 6 discloses a different weight range for the ingredients and includes 10-15 wt% dimethylhydantoin, tableting aids and fragrance.

All of the claimed features are met by the express disclosure of DeSenna et al. The capsule feature (claims 19 and 33) is met, because without more, the term "capsule" is broad enough to read on tablets. Note DeSenna's disclosure of different tablet sizes (column 5, lines 32-35). The claims are thereby anticipated.

Claims 29, 38, 40 are rejected under 35 U.S.C. 102(b) as being anticipated by Auchincloss (US 4,822,512).

Auchincloss discloses a water-soluble biocidal composition comprising:

(a) 0.01-5 parts by wt. of a water-soluble inorganic halide such as sodium bromide;

(b) 25-60 parts by wt. of an oxidizing agent, which in aqueous solution, reacts with the halide to generate hypohalite ions;

(c) 3-8 parts by wt. of sulfamic acid;

(d) 0-20 parts by wt. of a non-reducing organic acid such as malic, succinic acid;

(e) 10-30 parts by wt. of an anhydrous alkali metal phosphate.

See column 2, lines 17-29 and 64-68. See also claims 1-4. Use with surfactants such as sodium dodecylbenzene sulfonate is disclosed (column 3, lines 16-18). Preparation with water at point of use is disclosed (column 3, lines 31-37, 45-46).

The generation of hypohalite ion by Auchincloss' oxidizing agent meets applicant's "halogen releasing compound" feature. Hence, all of applicant's composition

features are met by Auchincloss' explicit disclosure. Anticipation is thereby found. In re Sivaramakrishnan, 213 USPQ 441 (CCPA 1982).

Claims 29, 39, 40 are rejected under 35 U.S.C. 102(a) or (e) as being anticipated by Shim et al. (US 6,478,972).

Shim et al. disclose a composition made by combining an alkali or alkaline earth metal hypochlorite, a stabilizer such as cyanuric acid or sulfamic acid, a bromide source such as sodium bromide (column 4, lines 36-51). The stabilizers include carboxylic acids (column 7, lines 63-65)[1]. Inclusion of any of the conventional corrosion and scale inhibitors known in the art is disclosed (column 8, lines 28-30). pH modifier is disclosed (column 8, lines 53-57).

The claims are thereby anticipated. Feature of claim 40 is met because the optional designation still applies.

Claims 29, 33, 34, 39, 40 are rejected under 35 U.S.C. 102(b) as being anticipated by Hight et al. (US 5,527,547).

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[1] Stabilizers are disclosed as "amide derivatives of carbonic acid, hydrogen cyanide, carboxylic acid ...." The Examiner interprets the "amide derivatives" to not apply to carboxylic acid. If the amide derivative modifier applied to all stabilizers, Shim's specific stabilizers such as cyanuric acids and sulfamic acid would conflict. Therefore, the disclosure is interpreted so that free carboxylic acids are included in Shim's list of stabilizers.

Hight et al. disclose solid combinations of hypochlorite donors (e.g. calcium hypochlorite, chlorinated hydantoins, trichloroisocyanuric acid/salt) and sodium bromide, in combination with a bromine volatilization suppressant such as alkylated sulfamic acid (column 6, lines 39-44; column 9, lines 42-46; column 10, lines 26-27; claims 1, 15, 20). Proportions of the hypochlorite to sodium bromide range from 85-99 parts by weight : 1-15 parts by weight and 50-99 parts by weight : 1-50 parts by weight (column 9, lines 47-58). 1-10 parts by weight bromine volatilization suppressant is disclosed (see e.g. claim 13, 20). 3 to 15 wt% sodium bromide + trichloroisocyanuric acid is explicitly disclosed (column 11, lines 38-51). Formulation as a tablet, stick or puck is disclosed (column 11, lines 22-24, claim 21). Compacting aids such as boric acid, stearate salts, aluminum hydroxide and monoglycerol stearate, and scale inhibitors such as polyphosphate are disclosed (column 11, lines 33-37).

The organic acid feature is met by Hight's alkylated sulfamic acid. The capsule feature of claim 33 is broad enough to read on Hight's "puck" formulation. Feature of claim 40 is met because the optional designation still applies. All other features are plainly evident from the above discussion. The claims are thereby anticipated.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

> the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 29-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hight et al. (US 5,527,547) in view of Shim et al. (US 6,478,972).

Hight et al. disclose solid combinations of hypochlorite donors (e.g. calcium hypochlorite, chlorinated hydantoins, trichloroisocyanuric acid/salt) and sodium bromide, in combination with a bromine volatilization suppressant such as alkylated sulfamic acid (column 6, lines 39-44; column 9, lines 42-46; column 10, lines 26-27; claims 1, 15, 20). Proportions of the hypochlorite to sodium bromide range from 85-99 parts by weight : 1-15 parts by weight and 50-99 parts by weight : 1-50 parts by weight (column 9, lines 47-58). 1-10 parts by weight bromine volatilization suppressant is disclosed (see e.g. claim 13, 20).. 3 to 15 wt% sodium bromide + trichloroisocyanuric acid is explicitly disclosed (column 11, lines 38-51). Formulation as a tablet, stick or puck is disclosed (column 11, lines 22-24, claim 21). Compacting aids such as boric acid, stearate salts, aluminum hydroxide and monoglycerol stearate, and scale inhibitors such as polyphosphate are disclosed (column 11, lines 33-37).

Shim et al. disclose a composition made by combining an alkali or alkaline earth metal hypochlorite, a stabilizer such as cyanuric acid or sulfamic acid, a bromide source such as sodium bromide (column 4, lines 36-51). The stabilizers include carboxylic

acids (column 7, lines 63-65)[2]. Inclusion of any of the conventional corrosion and scale inhibitors known in the art is disclosed (column 8, lines 28-30). pH modifier is disclosed (column 8, lines 53-57).

Hight et al. disclose alkylated sulfamic acid, which is an organic acid. Hence, with respect to broad claims that do not further specify the identity of the organic acid, Hight's disclosure is sufficient, as discussed in the preceding ground of rejection. With respect to the specific organic acids of claim 38, Shim's disclosure provides the suggestion to add carboxylic acids such as those recited in said claim. Shim et al. teach the advantage of carboxylic acids in that they permit much less consumption of the expensive bromide (column 3, lines 45-47). As for the specific acids recited in claim 38, it is the Examiner's position that "carboxylic acid" is suggestive of simple carboxylic acids such as formic acid, acetic acid, propionic acid, butyric acid, etc.

The fragrance and dye features in claims 30-31 would have been an obvious modification of Hight's composition. The advantages that would have motivated the ordinary skilled artisan to add such excipients are masking of the halide odor for the fragrance and indicator function for the dye. The powder form in claim 32 is a conventional variation of the dry solid form taught by Hight et al. Where rapid

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[2] Stabilizers are disclosed as "amide derivatives of carbonic acid, hydrogen cyanide, carboxylic acid ...." The Examiner interprets the "amide derivatives" to not apply to carboxylic acid. If the amide derivative modifier applied to all stabilizers, Shim's specific stabilizers such as cyanuric acids and sulfamic acid would conflict. Therefore, the disclosure is interpreted so that free carboxylic acids are included in Shim's list of stabilizers.

dissolution or dispersal is necessary, the powder form would have been suggested. The capsule form in claim 33 is met by the "puck" formulation taught by Hight et al. The tablet binding agent feature such as magnesium stearate (claims 35-36) would have been fairly suggested by Hight's disclosure to formulate the composition as a tablet. Hight's disclosure of stearate salts is amply suggestive of the well-known tabletting excipient, magnesium stearate. The filler feature of claim 37 is noted, but one having ordinary skill in the art would have been motivated to formulate Hight's tablet with conventional excipients to deliver sufficient, but not excessive amount of the active agents due to the expense of the bromide source. The fillers as recited in claim 37, such as sodium tripolyphosphate, are fairly suggested by Hight's sodium bromide containing biocidal tablet, which may contain additives such as polyphosphates (column 11, line 37). The surfactant feature of claim 40 is met since the optional designation still applies. Alternatively, the surfactants in claim 40 are typical, known surfactants that would have provided surface active properties to Hight's composition and one of ordinary skill in the art would have been motivated to incorporate such surfactant(s) in order to obtain the advantage of improved surface active properties.

Therefore, the claimed invention, as a whole, would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made, because every element of the invention and the claimed invention as a whole have been fairly disclosed or suggested by the teachings of the cited references.

Claims 17, 24, 31 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over DeSenna et al. (US 6,099,861) in view of Shim et al. (US 6,478,972).

DeSenna et al. teach an effervescent tablet composition for preparing a disinfecting solution, which tablet contains a combination of bromide releasing agent and a hypochlorite releasing agent (column 3, first paragraph). A two tablet system is disclosed (column 3, lines 7-11). Sodium bromide is disclosed as a bromide releasing agent and sodium dichloroisocyanurate is disclosed as a hypochlorite and stabilizing agent (column 3, lines 12-15). Combination of sodium bicarbonate and citric acid is disclosed as a useful effervescent agent (column 3, lines 15-17). Sodium carbonate is also disclosed as an effervescent ingredient (column 6, lines 9-10). Surfactants, deodorants, lubricants and fillers are disclosed (column 3, lines 17-19). The table on column 5 discloses a two 3 g tablet combination, wherein the weight percentage of the ingredients based on the total weight of the two tablets are as follows: 20.8 wt% citric acid + 5 wt% sodium bromide + 12.35 wt% sodium dichloroisocyanurate + 1 wt% sodium lauryl sulfate (within the scope of sodium salt of "long chain fatty sulphates") + q.s. fillers, such as excipients and other formulation additives. The table on column 6 discloses a different weight range for the ingredients and includes 10-15 wt% dimethylhydantoin, tableting aids and fragrance.

Shim et al. disclose a composition made by combining an alkali or alkaline earth metal hypochlorite, a stabilizer ingredient that includes carboxylic acids[3], and a bromide source such as sodium bromide (column 4, lines 36-51; column 7, lines 63-65).

Applicant's claims 17 and 31 require the addition of a dye. While DeSenna et al. do not expressly disclose a dye, one having ordinary skill in the art would have been motivated to incorporate a dye for those disinfecting applications where visual indicator of disinfection is desirable.

With respect to the specific organic acids of claim 38, Shim's disclosure provides the suggestion to add carboxylic acids such as those recited in said claim. Shim et al. teach the advantage of carboxylic acids in that they permit much less consumption of the expensive bromide (column 3, lines 45-47). As for the specific acids recited in claim 38, it is the Examiner's position that "carboxylic acid" is suggestive of simple carboxylic acids such as formic acid, acetic acid, propionic acid, butyric acid, etc.

Therefore, the claimed invention, as a whole, would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made, because every element of the invention and the claimed invention as a whole have been fairly disclosed or suggested by the teachings of the cited reference.

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[3] Stabilizers are disclosed as "amide derivatives of carbonic acid, hydrogen cyanide, carboxylic acid ...." The Examiner interprets the "amide derivatives" to not apply to carboxylic acid. If the amide derivative modifier applied to all stabilizers, Shim's specific stabilizers such as cyanuric acids and sulfamic acid would conflict. Therefore, the disclosure is interpreted so that free carboxylic acids are included in Shim's list of stabilizers.

Claim 18 is objected to as being dependent upon a rejected base claim, but would be allowable, *subject to a search update at the time of the next Office action,* if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to JOHN PAK whose telephone number is **(571)272-0620.** The Examiner can normally be reached on Monday to Friday from 8 AM to 4:30 PM.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's SPE, Gary Kunz, can be reached on **(571)272-0887**.

The fax phone number for the organization where this application or proceeding is assigned is **(571)273-8300**.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571)272-1600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JOHN PAK
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